In the Claims:

Please amend the claims as follows:

1-21 (cancelled)

22. (new) A method for increasing the size of small particles for a condensation particle counter, the method comprising:

dividing a particle containing aerosol flow into a sample flow and a sheath flow;

filtering the sheath flow in order to remove particles contained in the sheath flow;

saturating the filtered sheath flow with vapor;

forming the sheath flow into a vortex flow; and

introducing the sample flow to a center of the vortex-flow of the saturated sheath flow causing the vapor in the sheath flow to condense on the particles in the sample flow thus increasing the size of the particles.

23. (new) The method according to claim 22, wherein the vortex flow is a spiral flow that flows upwardly along inner surfaces of a saturator and/or a condenser.

24. (new) The method according to claim 22, wherein the sheath flow is formed to a vortex flow by feeding the sheath flow tangentially to a lower part of a saturator.

25. (new) The method according to claim 22, wherein the sheath flow is saturated by

forming the sheath flow into a vortex flow, which vortex flow flows along a moist inner lining of a saturator.

26. (new) The method according to claim 22, wherein the vortex flow is formed to circulate around a flow divider.

27. (new) The method according to claim 22, wherein the saturated sheath flow is brought to a vortex flow by a vortex generating means.

28. (new) The method according to claim 27, wherein the vortex generating means includes a flow guide which is stationary or rotating.

29. (new) The method according to claim 27, wherein the vortex flow has an inward motion, which keeps the particles in the sample flow in a center of a condenser.

30. (new) The method according to claim 22, wherein the vortex flow is formed in a saturator and a condenser that are placed on top of each other.

31. (new) The method according to claim 30, wherein the saturator and the condenser are cylindrical.

32. (new) The method according to claim 22, wherein the sample flow is introduced to the center of the saturated sheath flow by a flow divider, that is situated in a center of a saturator

and a condenser.

33. (new) An apparatus for increasing the size of small particles for a condensation particle counter, the apparatus comprising:

a flow divider for dividing an aerosol flow into a sample flow and a sheath flow;

a filter for filtering the sheath flow;

a saturator for saturating the filtered sheath flow with vapor, the saturator comprising means to form the sheath flow into a vortex flow; and

a condenser, where the sample flow is introduced to the saturated sheath flow to condense the vapor in the sheath flow on the particles in the sample flow thus increasing a size of the particles,

wherein the vortex flow formed in the saturator is arranged to continue in the condenser and the sample flow is arranged to be introduced to a center of the saturated sheath flow.

34. (new) The apparatus according to claim 33, wherein the vortex flow is a spiral flow that is arranged to flow upwardly along inner surfaces of the saturator and/or the condenser.

35. (new) The apparatus according to claim 33, wherein means to form the sheath flow to a vortex flow in the saturator comprises a pipe that is arranged tangentially to a lower part of the saturator.

36. (new) The apparatus according to claim 33, wherein an inner lining of the saturator is moistened with liquid and wherein the sheath flow is arranged to be saturated by forming the

sheath flow into a vortex flow arranged to flow along the moisted inner lining of the saturator.

37. (new) The apparatus according to claim 33, wherein the condenser comprises a vortex generator operative to form the vortex flow of the saturated sheath flow.

38. (new) The apparatus according to claim 37, wherein the vortex generator comprises a stationary or a rotating flow guide.

39. (new) The apparatus according to claim 33, wherein the saturator and the condenser are placed on top of each other.

40. (new) The apparatus according to claim 39, wherein the saturator and the condenser are cylindrical.

41. (new) The apparatus according to claim 33, wherein the flow divider is arranged in a center of the saturator and the condenser and wherein the flow divider extends through a height of the saturator and ends inside the condenser.

42. (new) The apparatus according to claim 33, wherein the flow divider comprises a sample flow capillary operative to feed the sample flow to the condenser to the center of the saturated sheath flow.